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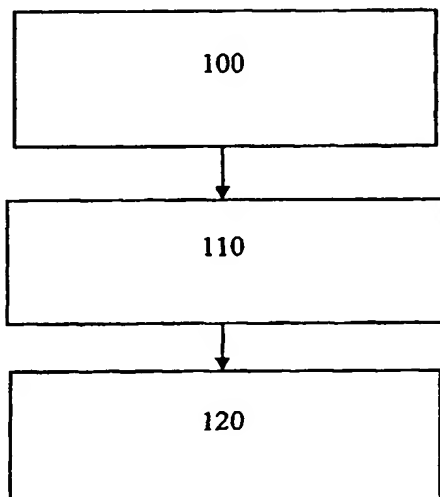
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(54) Title: METHOD AND APPARATUS FOR PRODUCING CONTRAST AGENTS FOR MAGNETIC RESONANCE IMAG-
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(57) Abstract: The present invention relates to an arrangement and a method for providing contrast agent for e.g. MRI (Magnetic Resonance Imaging) and NMR (Nuclear Magnetic Resonance) applications. The method according to the invention comprises the steps of obtaining (100) a solution in a solvent of a hydrogenatable, unsaturated substrate compound and a catalyst for the hydrogenation of a substrate compound, hydrogenating (110) the substrate with hydrogen gas (H₂) enriched in para-hydrogen (p-¹H₂) to form a hydrogenated contrast agent and exposing (120) the contrast agent to a oscillating magnetic field in combination with a stationary magnetic field. The apparatus comprises a magnetic treatment unit (240) equipped with means for producing an oscillating and a stationary magnetic field.

WO 2004/019995 A2